

REMARKS

Claims 27-38 are pending in the present application. By this amendment, Applicants have amended claims 27 and 38, canceled claim 37 and added claim 44. No new matter is added.

Claims 27 and 38 are amended to incorporate the claim limitations previously associated with claim 37, which is canceled herein. Additional support for the amendment is provided, for example, at paragraphs [0044] and [0055].

Claim 44 is added to recite a feature of the sample grid spacing. Support for this claim is provided on page 11, paragraph [0058].

Rejection under 35 U.S.C. § 103(a) – Yamamura *et al.* in view of Duffield, *et al.*

Claims 27-28, 32-33, 35, and 37-38 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Yamamura, *et al.* (*International Journal of Pharmaceutics*, 2001) (hereinafter “Yamamura”) in view of Duffield *et al.* (US Patent Application 203/0131905) (hereinafter “Duffield”).

Applicants respectfully traverse the rejection at least in view of the amended claims.

As amended, independent claims 27 and 38 (and their dependent claims) contain a limitation that when X-ray radiation is used, the angle of incidence of less than 2.50 degrees. This is described in the specification (including paragraph [0055]) as important “to allow complete information to be obtained from the sample plugs being analyzed.” The angle of incidence is significant because, in part, it defines the depth of penetration of the radiation.

Yamamura describes a different set of angles of incidence – characterized as with 2θ of between $25-65^\circ$ for the ZnO-ZnS system and between $5-35^\circ$ in the case of the SA-BA system. The 0.5° figure cited in the Office Action refers to the divergence and scatter slits, not the angle of incidence. Yamamura provides no suggestion of benefit or reason to apply lower angles of incidence.

This deficiency in Yamamura is not remedied by Duffield. Duffield has been cited for its alleged disclosure of a coring method and does not even describe use of spectroscopy to analyze the powder samples reflected in its disclosure.

Accordingly, there is no disclosure or suggestion of all features present in the amended claims, and Applicants respectfully request reconsideration and withdrawal of the rejection.

Moreover, it has not been established that one would have reason or be motivated to combine these references. The sample preparation described *and required for reproducible results* by Yamamura involves the formation of 1.3 cm diameter tablets prepared using compaction pressures in excess of 1000 kg/cm² (Yamamura, pp. 205-206, Section 3.2 “Tableting”). Duffield describes applications where smaller samples than Yamamura would contemplate. In addition, Duffield’s samples are only compacted by sufficient force to be held together for the time of *powder* transfer, after which the *powder* is dispersed -- *see, e.g.*, paragraphs [0020] (“*powder* [not pellet] is ejected”) and [0034] (“disrupting the *powder*”) – certainly not compacted at the pressures or sizes described in Yamamura. Ede *et al.*, U.S. Patent 7,051,771, which similarly describes the use of dosators to manipulate powders in similar applications as Duffield, describes “Pressures between 1 bar and 10 bar, exerted by the plunger on the powder, are suitable for good compaction of the powder into the pocket.” A pressure of 10 bar corresponds to 10.2 kg/cm². Neither Yamamura nor Duffield suggest any reasonable expectation of success in employing samples prepared at pressures of approximately 1% of those described as required for reproducibility.

Taken together with the fact that Duffield does not teach that the samples prepared by its method may be used in any spectroscopic analysis, there would be no reason for one to combine the references with any expectation of success in the absence of Applicants’ disclosure.

For at least this additional reason, Applicants respectfully request reconsideration and withdrawal of the rejection over Yamamura in view of Duffield.

Rejection under 35 U.S.C. § 103(a) – Yamamura *et al.* in view of Duffield, *et al.* in further view of Vann, *et al.*

Claims 29-30, 34 and 36 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamura in view of Duffield, as applied to claims 27-28, 32-33, 35 and 37-38 above, further in view of Vann *et al.* (US 7,101,510) (hereinafter “Vann”).

Applicants respectfully traverse this rejection.

As described above, neither Yamamura nor Duffield, either alone or in combination, disclose or suggest all of the elements of independent claims 27 and 38, upon which 29-30, 34 and 36 depend. Vann does not remedy these deficiencies.

For example, contrary to the assertions of the Office Action, Vann does not suggest the use of infrared or other radiation emitter sources for use in scattered radiation spectroscopy. The diode system described in Vann is used to detect the passage of reagent dispensed from any one of the dispensers in the array (Vann, col. 3, lines 15-23). The Examiner has provided no basis for the assertion that one skilled in the art would be motivated to configure such a radiation emitter to work in conjunction with powder X-ray diffraction.

Accordingly, Vann does not cure the deficiencies of the primary cited references and Applicants respectfully request reconsideration of the rejection of claims 29-30, 34 and 36.

Rejection under 35 U.S.C. § 103(a) – Yamamura *et al.* in view of Duffield, *et al.* in further view of Vann, *et al.*, further in view of Maher *et al.*

Claim 31 stands rejected under 35 U.S.C. 103(a) as being allegedly unpatentable over Yamamura in view Duffield, further in view of Vann, as applied to claims 27-30 and 32-38 above, further in view of Maher *et al.* (US 7,312,043) (hereinafter “Maher”).

Applicants respectfully traverse this rejection.

As described above, neither Yamamura nor Duffield, either alone or in combination, with or without Vann, disclose or suggest all of the elements contained within independent claims 27 and 38, upon which claim 31 depends. Maher does not remedy these deficiencies.

Moreover, Maher discloses instrumentation and methods for manipulating membrane potentials of living cells by electrical stimulation. It does not describe methods for analyzing solids using X-ray or Raman spectroscopy. The absorbance of radiation contemplated by Maher is optical radiation. X-ray radiation is not even considered in this reference, thereby calling into question why one would have reason or motivation to adjust the optical properties of the rack in Duffield-Vann so as to arrive at claim 31 (based on x-ray radiation).

Because Maher does not remedy the deficiencies of the Yamamura – Duffield – Vann references, the Applicants respectfully submit that claim 31 is patentable over this combination of references and request reconsideration and withdrawal of the rejection.

Conclusion

Applicants believe that the foregoing constitutes a complete and full response to the Office Action of record. Applicants respectfully submit that claims 27-36, 38, and 44 are in condition for allowance and entry of the present amendment and notification to that effect is earnestly requested.

Nevertheless, should the Examiner consider that any of these claims are not in condition for allowance, Applicants request that the Examiner call the undersigned attorney at the number listed below to expedite prosecution.

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